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Remarks

The above Amendments and these Remarks are in reply to the Office Action mailed December 4, 2006. A Petition for Extension of Time is submitted herewith, together with the appropriate fee.

Applicant gratefully acknowledges the courtesy of a telephone interview granted by Examiners Barbara Burgess and Abdullahi Salad on April 2, 2007, during the course of which interview the participants discussed general aspects of the invention, and in particular the use of the claim term "increasingly focused". Applicant believes they have addressed the Examiners' comments in the present Reply, and welcomes the opportunity for further discussion, at the Examiner's convenience, if the Examiner feels such discussion would place the claims in better condition for allowance.

I. Summary of Examiner's Rejections

Prior to the Office Action mailed December 4, 2006, Claims 1-15, 17, 24-27 and 29-37 were pending in the Application. In the Office Action, all of the claims were rejected under 35 U.S.C. 103(a) as being unpatentable over Zimowski et al. (U.S. Patent No. 5,632,015, hereafter Zim) in view of Spaey et al. (U.S. Patent Publication No. 2002/0055981, hereafter Spaey).

II. Summary of Applicant's Amendment

The present Reply amends Claims 1, 6, 8-9, 24, 29-33, 36 and 37, leaving for the Examiner's present consideration Claims 1-15, 17, 24-27 and 29-37. Reconsideration of the Application, as amended, is respectfully requested.

III. Claim Rejections under 35 U.S.C. §103(a)

In the Office Action mailed December 4, 2006, Claims 1-15, 17, 24-27, 29-37 were rejected under 35 U.S.C. 103(a) as being unpatentable over Zim (U.S. Patent No. 5,632,015) in view of Spaey (U.S. Patent Publication No. 2002/0055981).

As an initial matter, Applicant respectfully notes that the date of the Spaey reference, for purposes of qualifying as prior art, may postdate Applicant's priority date. In particular, the present

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Application was filed on August 20, 2001. The Spaey reference (U.S. Publication No. 2002/0055981) was filed on August 31, 2001, and appears to claim priority to U.S. Provisional Application 60/229,120, filed August 31, 2000. On reviewing the written descriptions of both Publication No. 2002/0055981 and U.S. Provisional Application 60/229,120, it appears that several portions of Publication No. 2002/0055981 (for example paragraphs [0157] and [0167]), lack adequate support in the corresponding provisional application. As such, it appears these sections may qualify as prior art only as of their non-provisional filing date , i.e. as of August 31, 2001, which postdates Applicant's priority date.

As such, Applicant respectfully submits that the Spaey reference may not qualify, in its entirety, as prior art against the present Application, subject to any other publication of the technology described in Spaey, of which Applicant is not currently aware. Applicant welcomes the Examiner's assistance in further determining the applicability of the Spaey reference as potential prior art.

Claim 1

Notwithstanding the above comments, and in order to expedite prosecution, Claim 1 has been amended to more clearly define the embodiment therein, and to further distinguish the embodiment from the cited references. As amended, Claim 1 defines:

> *1. (Currently Amended) A system for session-based retrieval at a client system of content from a server system, comprising:*
>
> *a communication protocol that enables an asynchronous connection between a client system and a server system, and allows the client system to send, within a session between the client system and the server system, a lengthening string composed of a plurality of consecutively input characters, to query the server system for string-based content;*
>
> *a client object, in communication with a client software at the client system and with the communication protocol, wherein the client object receives additional characters from the client software, and as consecutive characters are being received, transmits to a server object at the server system a plurality of consecutive queries, within the same session, to retrieve content from the server system, wherein each consecutive query lengthens the*

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string by the additional characters, to form a lengthening string for retrieving matching content from the server system; and

a server object, in communication with the server system, and with the client object via the communication protocol, wherein the server object in response to receiving the consecutive queries that form the lengthening string, automatically uses the lengthening string to query and retrieve content information from the server system that matches the lengthening string, and wherein the server object asynchronously returns, while the additional characters are being input and the string is being lengthened during the session, increasingly matching content information to the client object for immediate use by the client system.

Claim 1, as currently amended, defines that the client object receives additional characters from the client software, and as consecutive characters are being received, transmits to a server object at the server system a plurality of consecutive queries to retrieve content from the server system. Each consecutive query lengthens the string by the additional characters, to form a lengthening string for retrieving matching content from the server system. The server object, in response to receiving the consecutive queries that form the lengthening string, automatically uses the lengthening string to query and retrieve content information from the server system. The server object then asynchronously returns, while the additional characters are being input and the string is being lengthened, increasingly matching content information to the client object.

The advantages of the embodiment currently defined by Claim 1 include that the server knows immediately when a search string character is entered by an end-user at the client, without the end-user having to, e.g. click "submit" each time. The server can then respond automatically as each character is being received at the client object, and as the *query string is being lengthened*. This immediate feedback may, for example, be in the form of providing preliminary search results, or suggesting a more appropriate search string. In one embodiment, the feedback can resemble a form of auto-complete or auto-suggestion, which is presented to the user as the user is actually typing (i.e. lengthening) a search string, but without the user having to click on a "submit" button. Matching content information is asynchronously returned to the user, while the user is still entering their query.

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Zim discloses a system and method for allowing a client application that is remotely connected to a server to invoke a stored procedure on the server and to have multiple query result sets returned to the client application on a single network message exchange. (Column 2, lines 1-7). In one embodiment, the system includes a client process that constructs a client process execution request identifying a stored procedure and specifying constraints on the quantity of response data that the client process is capable of handling. The client process execution request is transferred to a server process. The server process invokes the stored procedure identified by the client process execution request, and generates answer set data for a plurality of diverse query result sets. The server process then generates an initial response containing, for each of the query result sets, an amount of the obtained answer set data consistent with the constraints. The initial response is transferred from the server to the client process. The client application is then able to access and process answer set data for the diverse result sets in any order. (Column 2, line 59 - Column 3, lines 14).

Applicant respectfully submits that, as described above, Zim discloses a client-server environment in which a plurality of server database objects and result sets are exchanged with a client using a minimal number of network messages. The advantages of such a system include that it involves a single exchange of messages between the client and the server; and that once an initial amount of data is received, the client can subsequently select, in any order, which additional data it may want to retrieve.

However, Applicant respectfully submits that the technique disclosed by Zim differs substantially from that defined by Claim 1, as currently amended.

As defined by Claim 1, the client object receives additional characters from the client software, and *as consecutive characters are being received*, transmits to a server object at the server system a plurality of consecutive queries, within the same session, to retrieve content from the server system, wherein each *consecutive query lengthens the string by the additional characters*, to form *a lengthening string for retrieving matching content* from the server system.

As further defined by Claim 1, the server object *automatically uses the lengthening string to query and retrieve content information* from the server system that matches the lengthening string, including wherein the server object *asynchronously returns* the increasingly matching

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content information *while the additional characters are being input and the string is being lengthened.*

Spaey discloses a system and method to synchronously access structured data using the Internet platform (browser) to access, search, filter and sort remotely stored data. The system includes three main parts: an interface, a communication protocol, and an intelligent server. The intelligent server's function is to provide the information the user requests via the interface by formatting the interface request for the database and formatting the results from the database for the interface. (Abstract). As further described therein, the server is sessionless, i.e. no information about past requests is required to process the current request. This means several servers can process incoming requests in parallel. (Paragraph [0087]).

Notwithstanding the comments provided above with respect to the effective prior art date of the Spaey reference, Applicant further respectfully submits that Spaey does not appear to disclose the features of the present invention. In the Office Action it was submitted that Spaey discloses a communication protocol that enables an asynchronous session. However, as described above it appears that in Spaey it may be advantageous for the server to be sessionless, so that no information about past requests is required to process the current request, and so that several servers can process incoming requests in parallel.

In view of the above comments, Applicant respectfully submits that Claim 1, as currently amended, is neither anticipated by nor obvious in view of the cited references, and reconsideration thereof is respectfully requested.

Claims 24, 29, 32, 33, 36 and 37

The comments provided above with respect to Claim 1 are hereby incorporated by reference. Claims 24, 29, 32, 33, 36 and 37 have been similarly amended to more clearly define the embodiments therein. For similar reasons as provided above with respect to Claim 1, Applicant respectfully submits that Claims 24, 29, 32, 33, 36 and 37, as amended, are likewise neither anticipated by, nor obvious in view of the cited references, and reconsideration thereof is respectfully requested.

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Claims 2-15, 17, 25-27 and 30-31

Applicant respectfully submits that the remaining Claims 2-15, 17, 25-27 and 30-31 are allowable as depending upon an allowable independent claim, and further in view of the comments provided above. However, to assist the Examiner in examining these claims, Applicant has provided comments below on several of these claims. Applicant welcomes the opportunity to further discuss the comments provided herein, if the Examiner feels such discussion would place the claims in better condition for allowance.

Claim 3 defines an embodiment in which the server object and the client object can both run on the same computer. In the Office Action, it was submitted that Zim discloses such an arrangement. However, Applicant respectfully submits that Zim discloses that the client computer system and the server computer system *are each implemented using a computer system*, and further illustrates in Figure 1 that these two computer systems are separated by a communication medium. Thus, Zim does not appear to disclose any embodiment in which the server object and the client object both run on the *same computer*.

Claim 4 defines an embodiment in which the system comprises *a plurality of server objects* that run on a plurality of separate computers, and wherein the client queries are distributed over the separate computers. Applicant respectfully submits that Zim does not appear to disclose such an arrangement.

Claim 5 defines an embodiment in which the server object stores previously received results from the server as stored results, and initially returns the stored results to the client in response to new client queries, without accessing the content at the server. Applicant respectfully submits that this differs from Zim in that Zim discloses that the server therein may store a plurality of *stored procedures*, which are different from the *stored strings* defined by Claim 5.

Claim 6 has been amended to more clearly define an embodiment in which the software application provides a visual interface to an operator that *the server object is currently using the lengthening query string against the content of the server system to query and retrieve content information*, and allows the operator to add or remove additional characters to lengthen the query string while simultaneously receiving increasingly matching results from the server. Applicant respectfully submits that Zim does not appear to disclose such an arrangement.

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Claim 8 defines an embodiment in which the client software accumulates a plurality of the single character queries as they are entered into the client, before sending the plurality of the single character queries together to the server as a single string. Applicant respectfully submits that Zim does not appear to disclose a system whereby multiple consecutively input characters are grouped into *a single string-based query*. Instead, Zim describes that the server-side stored procedure may include a plurality of *database query instructions*, and that the *server* (rather than the client) may execute multiple predefined stored procedures as a result of a single client request.

Claim 9 has been amended to more clearly define the embodiment as one in which the client object stores previously received responses from the server in a cache *at the client* and uses the previously received responses as the response to a new query by the user, without re-accessing the server. Applicant respectfully submits that Zim does not appear to disclose such an arrangement. Instead, Zim appears to disclose that *the server* will memorize a full result set for the client for its current query, allowing the client to selectively fetch data from that result set.

Claim 10 defines an embodiment in which the client software stores a pre-defined query string and automatically transmits it to the server as the client software is first accessed, and wherein additional entry of query characters is not required before server responses are sent to the client. Applicant respectfully submits that Zim does not appear to specify an *initial query* (*the "pre-defined string"*) to be sent and performed by the server when the client software is first accessed. Instead, Zim discloses only that the client receives the initial results as they are returned for any query.

Claim 11 defines an embodiment in which the server stores the state of query and response of the client software, and restores the state of the client software after any interruption in the communication protocol, including an automatic or manual network interruption or termination of the session. However, Zim appears to describe that the client system, after performing a query and receiving results, can ask for additional parts for the "answer set data" by specifying "the result set generator identifier for the query result set of interest". This suggests that in Zim, it is the *client* that knows (and remembers) the result set identifier, and simply asks for additional data while the client/server session is active.

Claim 12 defines an embodiment in which the client software adds a qualifier to the string query that is passed to the server, whereby the server can use the qualifier to execute the query

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and return appropriate results based on both the query string and its qualifier. However, Zim appears to describe named stored procedures, rather than strings (consisting of consecutively input characters) with optional qualifiers.

Claim 14 defines an embodiment in which the server system comprises a server tier and a syndication tier, and wherein the client software communicates to the server tier on a single computer, and wherein each query is forwarded by the server tier and the syndication tier to an appropriate syndicate of content channels connected to the server tier on a different computer. Zim appears to disclose that an initial response and a supplemental response are requested by the client system, and transmitted from the server system. However, Applicant respectfully submits that this is different from Claim 14, which describes that a first server may access content channels on other servers, whereby data is "syndicated" from one server to another, allowing a first server to becomes a "content engine" for another (second) server.

Claim 15 defines an embodiment in which the server applies a content dependent pattern and filter to characters received from the client before queries are matched against the content. Since this technique works for character or string-based queries, Applicant respectfully submits that such techniques would not be applicable to systems such as disclosed by Zim, which work with stored procedures rather than string-based queries.

Claims 25-27 have been amended (through their parent Claim 24) to define the embodiments therein as comprising a status indicator for indicating during a session both the status of increasingly available content at the content server for selection by the user at that input field, and that the server object is currently using the lengthening query string against the content of the server system to query and retrieve content information. Applicant respectfully submits that Zim does not disclose such features.

Claims 30 and 31 have been amended to properly depend from Claim 29. Claim 30 defines an embodiment in which the server object matches each query received from the client against an in-memory cache, and returns cached content to the client without accessing the content engine, unless the cached content has expired. Claim 31 defines an embodiment in which the server analyzes the time between the consecutive queries received from each client system, and skips selected ones of the consecutive queries to reduce network communications and the load on the content engine. Applicant respectfully submits that Zim discloses fetching from the server selected

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elements from the result set, or a partial result set, for a current query, which is a different technique from those defined by Claims 30 and 31.

Claims 2, 7, 13 and 34-35 are not addressed separately, but it is respectfully submitted that these claims are allowable as depending from an allowable independent claim, and further in view of the amendments to the claims and the comments provided above.

In view of the above comments, Applicant respectfully submits that neither Zim nor Spaey appear to disclose or suggest the particular combination of features defined by each of the dependent claims above. Reconsideration thereof is respectfully requested.

IV. Conclusion

In view of the above amendments and remarks, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and reconsideration thereof is respectfully requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

Enclosed is a PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. §1.136 for extending the time to respond up to and including May 4, 2007.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: May 4, 2007

By: _____
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